

REMARKS

Overview

The Examiner responded in the prior Office Action as follows: rejected claims 1-2, 4-6, 62, 81-84, 87, 94, 96 and 100-101 under 35 U.S.C. § 102(e) as being anticipated by Greamo et al. (U.S. Patent Application Publication No. 2002/0095307); rejected claims 16-22, 24-28, 30-33, 35-36, 38-43, 46, 48-54, 56-59, 61, 63 and 66 under 35 U.S.C. § 102(e) as being anticipated by Jenkins et al. (U.S. Patent Application Publication No. 2002/0188499); rejected claims 68-69 and 71 under 35 U.S.C. § 102(e) as being anticipated by Dunston (U.S. Patent Application Publication No. 2002/0082954); rejected claims 3, 76-77, 85, 88, 91 and 97 under 35 U.S.C. § 103(a) as being unpatentable over Greamo; rejected claims 7-15, 73-75, 78-80, 86, 88-93, 95 and 98 under 35 U.S.C. § 103(a) as being unpatentable over Greamo in view of Jenkins; rejected claims 23, 34, 55, 60 and 67 under 35 U.S.C. § 103(a) as being unpatentable over Jenkins in view of Greamo; rejected claims 29, 37, 44, 47 and 64-65 under 35 U.S.C. § 103(a) as being unpatentable over Jenkins; rejected claim 45 under 35 U.S.C. § 103(a) as being unpatentable over Jenkins in view of Dunston; rejected claim 99 under 35 U.S.C. § 103(a) as being unpatentable over Greamo in view of Jenkins and Dunston; and rejected claims 70 and 72 under 35 U.S.C. § 103(a) as being unpatentable over Dunston in view of Greamo.

Applicants hereby amend claim 1 in order to clarify the subject matter of their invention. Thus, claims 1-101 continue to be pending.

Applicants would also like to thank Examiner Krisciunas for her consideration during the telephone interview with Applicants' representative on May 30, 2006 regarding this application. During the interview, various claimed elements in claims 1 and 16 that are not present in the cited prior art were discussed, and the Examiner indicated that she would reconsider the current rejections after Applicants' written response.

Analysis

As a threshold matter, Applicants maintain their assertion, described in Applicants' response of February 7, 2006 to an Office Action dated November 7, 2005, that neither Greamo

nor Jenkins qualify as effective prior art because the provisional application(s) from which they claim priority, and whose priority dates are needed for Greamo and Jenkins to qualify as prior art, do not properly support the subject matter in Greamo and/or Jenkins relied upon by the Examiner as a basis for her rejections. However, in interest of furthering prosecution, Applicants address the Examiner's substantive arguments with reference to the cited references, as well as indicate why the relied-upon subject matter in Greamo and/or Jenkins is not properly supported by the provisional application(s) from which they claim priority.

Rejections Based On Prior Art

The Examiner has rejected each of the previously pending claims 1-101 as being unpatentable over Greamo, Jenkins, or Dunston, either alone or in various combinations with one another. However, each of the pending claims as previously rejected includes features and provides functionality not disclosed by the cited references. Thus, each of the pending claims as rejected is allowable.

Applicants' techniques are generally directed to generating fulfillment plans for current and/or potential orders in such a manner as to enhance the future fulfillment process for expected future orders, such as to minimize the costs that will be associated with fulfilling those future orders. By modeling future costs associated with expected future orders that are not yet received or otherwise known, fulfillment plans for current orders may be dynamically selected in an optimal or near-optimal manner with respect to those expected future orders without delaying the order fulfillment process for the current orders until those future orders are received. (*See, for example*, Applicants' Specification, ¶¶ 29-30, 26.) Examples of future costs for unknown future orders that may be modeled include those related to overload of work at distribution centers (*e.g.*, to reflect future increased staffing costs and/or customer goodwill costs due to delayed orders), inventory imbalance between distribution centers (*e.g.*, to reflect costs related to shipping inventory between distribution centers), and inventory exhaustion (*e.g.*, to reflect costs related to expedited inventory replenishment and/or customer goodwill costs due to delayed orders). (*See, for example*, Applicants' Specification, ¶ 35.)

The pending claims recite various claimed aspects that are not taught, suggested, or motivated by the cited references. For example, independent claim 1 as amended recites “for each of the determined distinct fulfillment plans for the order, *modeling at least some of the future costs of supplying expected future orders to recipients if the items of the order are supplied using that fulfillment plan*, the modeling of the future costs for the order being performed before the expected future orders are received” (emphasis added), and independent claim 73 recites “generating predictions of future orders for indicated items, the predicted future orders for current use in planning for later fulfilling of actual future orders; and . . . adjusting the assigned costs of using at least some of the multiple fulfillment plans based on whether the use of those fulfillment plans will assist in correcting determined deviations for future orders”. The other independent claims 16, 54, 59, 62, 63, 68, 81, 88, 91 and 94 each recite similar language regarding modeling or otherwise considering the effects of actions for current orders on potential future orders.

Conversely, Greamo, Jenkins, and Dunston lack any teaching, suggestion or motivation to determine how to fulfill current orders based on modeling of costs for expected future orders that have not yet been received. The Examiner asserts that Greamo teaches the recited aspects of Applicants’ independent claim 1, and references language in Greamo to “select lowest cost option” (with respect to step 240 of Figure 2A) to support her assertion that Greamo teaches modeling future costs of supplying expected future orders. However, the referenced portions of Greamo merely describe the well-known prior art technique of selecting a lowest cost option amongst multiple options for fulfilling an order. More generally, Figure 2A and the accompanying text of Greamo appear to merely describe processing orders on an order-by-order basis as they are received, without any reference to expected future orders that have yet to be received. (Greamo, ¶¶ 41 and 49.) Thus, Greamo appears to merely reflect one of the limited prior techniques described in Applicants’ Background section, as follows:

some companies may attempt to, at the time an order is placed, . . . [use] a fulfillment process that ignores effects on any other orders . . . , such as by assigning the order to a distribution center that is closest to the recipient and by expending whatever resources are needed to ship that order by an expected time if possible (e.g., by increasing staffing levels with temporary workers and/or by paying premium inventory prices to quickly acquire an out-of-stock item).

However, even if such techniques can minimize inaccuracies and imprecision for a particular order, they suffer from various other problems, including increasing the time needed to fulfill later orders and/or increasing the costs associated with fulfilling those orders. Applicants' Application, ¶ 8.

Accordingly, Greamo does not teach, suggest, or motivate the modeling of future costs of supplying expected future orders, and neither Jenkins nor Dunston remedy this failing of Greamo. For example, with respect to claim 16, the Examiner asserts that paragraph 16 of Jenkins teaches considering a cost of fulfilling future orders when assessing costs for a fulfillment option for a current order, but the cited paragraph merely describes the general features of a fulfillment system in attempting to decrease supply costs, without any teaching, suggestion, or motivation to consider costs related to fulfilling expected future orders. Similarly, when discussing claim 68, the Examiner asserts that Figure 4 and accompanying text of Dunston teaches considering the effect of expected future orders on a plan for supplying a current order, but the cited portions of Dunston merely discuss locating a distribution center that is capable of fulfilling a received product order, without any mention of considering factors affected by expected future orders. Accordingly, due to the failure of the cited prior art to provide any teaching, suggestion or motivation to determine how to fulfill current orders based on modeled costs for expected future orders that have not yet been received, each of the independent claims 1, 16, 54, 59, 62, 63, 68, 73, 81, 88, 91 and 94 are patentable over the cited prior art for at least this reason.

Furthermore, various of the pending claims recite additional claim elements related to modeling future costs of expected future orders, which the cited prior art references further fail to teach, suggest or motivate. For example, independent claim 1 as rejected and currently pending recites "the modeling including, for each item distribution center indicated by the fulfillment plan to ship one or more indicated items, determining if the shipping of those indicated items by that item distribution center will result in an *overload of work* at that item distribution center and will result in a *shortage of inventory* of those indicated items at that item distribution center; and assigning the modeled future costs based at least in part on estimates of future costs for *correcting any determined work overloads and any determined inventory shortages*" (emphasis added). While Greamo generally describes a system for processing orders that "checks

availability of desired inventory to offer a low-cost solution to meet ... order requirements” in paragraph 41, this passage cited by the Examiner makes no mention of *work overload* in any context, nor does it describe modeling *shortages of inventory* that may occur at a given distribution center in the future due to a current order. Similarly, while paragraph 60 of Greamo cited by the Examiner mentions costs related to carrying *excess inventory* due to inventory reservations, this passage makes no mention of modeling future costs based on estimated future costs related to correcting *work overloads* and *inventory shortages*.

With respect to similar aspects of claim 16, the Examiner asserts that the production module 400 and accompanying text of Jenkins teaches considering costs related to future corrections of work level disparity that will be needed due to a particular fulfillment option for a current order, but the cited portions appear to merely discuss managing production planning by shifting resource load from overloaded periods to other periods, without any mention of modeling or otherwise considering future corrections of work level disparity that will be needed due to a particular fulfillment option for a current order. Also with respect to claim 16, the Examiner asserts that paragraphs 22, 24 and 25 of Jenkins teach considering costs related to future corrections of inventory exhaustion at a distribution center and inventory level disparity between distribution centers due to a particular fulfillment option for a current order, but the cited paragraphs appear to merely describe information contained in a database related to aspects of a supply chain (such as cost of replenishment, storage, and distribution for various SKUs), without any mention of modeling or otherwise considering *future* costs related to inventory exhaustion and/or inventory level disparity in any context, and particularly not with respect to particular fulfillment options. Accordingly, due to the failure of the cited prior art to provide any teaching, suggestion or motivation for the additional claim elements related to modeling future costs of expected future order, claim 1 is patentable over the cited prior art references for these reasons as well, as are other independent claims 16, 54, 59, 88 and 91 that recite similar language.

The pending dependent claims include the features of those claims from which they depend, and are thus allowable for the same reasons as those claims. Moreover, various of the pending claims also recite additional features lacking in the cited references, and are thus

allowable on the basis of those features as well, but are not enumerated here for the sake of brevity.

Greamo and Jenkins Are Not Effective Prior Art

In addition, as mentioned above, the subject matter in Greamo and Jenkins that the Examiner has relied upon in her rejections is not properly supported by the provisional applications from which they claim priority. For example, the Examiner asserts that Appendix 2, page 2 of Provisional U.S. Application No. 60/243,400 (hereinafter “the ‘400 Provisional’”) teaches modeling future costs based on estimated future costs related to correcting work overloads and inventory shortages, such as the Examiner has asserted is discussed in paragraphs 41, 49, and 60 of Greamo and paragraphs 16, 22, 24 and 25 of Jenkins. However, the cited passage only generally discusses tradeoffs related to handling orders wherein all items are to be shipped in a single shipment, and specifically mentions the cost of carrying *excess inventory*, which is opposite of a cost of correcting a *shortage of inventory*, as discussed in greater detail elsewhere. In addition, the cited passage does not discuss work overloads or other features of claim 1, such as modeling future costs of expected future orders prior to the receipt of such orders. Furthermore, a large number of other claim elements are not supported by the indicated passages of the ‘400 Provisional, with a few examples as follows from claim 1 based on the Examiner’s discussion on pages 3 and 4 of the prior Office Action dated March 16, 2006:

- page 2 of Appendix 2 does not include any indication of “for each of the determined distinct fulfillment plans for the order, modeling at least some of the future costs of supplying expected future orders to recipients if the items of the order are supplied using that fulfillment plan”. Instead, the referenced section indicates only that “the use of ship complete does have related costs. For example, because Master Planning and Commit will reserve inventory for the ship complete order, there will be inventory carrying costs associated with the delay of lower priority orders that could have been meet in full”, which instead references additional costs associated with a current order for which part of the order inventory is being held (*i.e.*, the inventory carrying costs) while waiting for the remainder of the inventory needed for the current order. The inventory carrying costs for the current order are unrelated to any indicated future costs of supplying expected future order to recipients.
- page 4 of Appendix 2 does not include any indication of “determining multiple distinct fulfillment plans for supplying the items of the order to the recipient, each fulfillment plan . . . indicating a manner of shipping the items from the indicated item distribution centers”; and

- page 3 of Appendix 11 is generally unrelated to identifying or evaluating a fulfillment plan for a current order, and does not include any indication of “for each item distribution center indicated by the fulfillment plan to ship one or more indicated items, determining if the shipping of those indicated items by that item distribution center will result in an overload of work at that item distribution center”.

This list is not intended to address all of the deficiencies of the ‘400 Provisional, but to instead provide examples in response to the Examiner’s discussion in the prior Office Action. Furthermore, if the priority claim of Jenkins is effectively changed from the ‘400 Provisional to another provisional application, as discussed below, any disclosure of the ‘400 Provisional would be irrelevant to supporting the disclosure of Jenkins, and such support would instead need to be established from the other provisional application.

In addition to the lack of subject matter support in the ‘400 Provisional, Jenkins does not even properly claim priority from the ‘400 Provisional, as is claimed in the transmittal papers filed with the Jenkins application and as previously discussed with the Examiner. In particular, 37 C.F.R. § 1.178(a)(4) requires common inventorship between a non-provisional application and a provisional application from which it claims benefit, and the lack of such common inventorship between Jenkins and the ‘400 Provisional prevents Jenkins from obtaining the benefit of the ‘400 Provisional’s filing date.

In the last month, it appears from the Patent Office Public PAIR database and from a communication from the Examiner that the Examiner has initiated a change in the priority claim for Jenkins to another provisional application, U.S. Application No. 60/243,427 (hereinafter the “‘427 Provisional”). However, even if it is allowable to make such a change in priority at this time (more than four years after the filing of the Jenkins application and well after its publication), the Jenkins application does not have an appropriate priority claim to the ‘427 Provisional, and thus Jenkins similarly cannot obtain the benefit of the ‘427 Provisional’s filing date. In particular, 37 C.F.R. § 1.178(a)(5) requires that such a benefit claim “must also be submitted within the later of four months from the actual filing date of the later-filed application or sixteen months from the filing date of the prior-filed provisional application” and that “the reference required by this paragraph must be included in an application data sheet (§ 1.76), or the specification must contain or be amended to contain such reference in the first sentence(s) following the

title”. 35 U.S.C. 119(e) further specifies that a “specific” reference is required, and MPEP 201.11 indicates the following:

The third requirement of the statute is that the later-filed application must contain a specific reference to the prior application. . . . Any benefit claim that does not both identify a prior application by its application number and specify a relationship between the applications will not be considered to contain a specific reference to a prior application as required by 35 U.S.C. 120. . . . To specify the relationship between the applications [when claiming priority to a non-provisional application], applicant must specify whether the application is a continuation, divisional, or continuation-in-part of the prior application. . . . [When claiming the benefit of a provisional application,] a statement such as "This application claims the benefit of U.S. Provisional Application No. 60/---, filed ---, and U.S. Provisional Application No. 60/ ---, filed ---." should appear as the first sentence(s) of the description or in an application data sheet. . . . 35 U.S.C. 120 does not preclude a benefit claim to a provisional application.

MPEP 201.11, emphasis in original.

There is no indication that an application data sheet was filed for Jenkins, and thus the specific reference to claim priority from the ‘427 Provisional must be made within the timeline indicated above and included within the Jenkins’ specification in the first sentence(s) following the title. However, the Jenkins specification as filed included only an indication that “This application claims priority from U.S. Provisional Application Serial No. 60/243,427 . . .” without any specific reference to the form of priority that is claimed. As noted above, a general claim to priority without a specific reference to the form of priority claim is ineffective to establish a priority claim. In this case, for example, it is unclear if the Jenkins application is attempting to claim the benefit of the ‘427 Provisional under 35 USC § 119(e), or to claim priority from the ‘427 Provisional as a continuation or CIP under 35 USC § 120 (as discussed in MPEP 201.11, a portion of which is quoted above). Thus, the Jenkins application did not make an effective priority claim to the ‘427 Provisional as required by 37 C.F.R. § 1.178, and Jenkins accordingly does not obtain the benefit of the ‘427 Provisional’s filing date.

Accordingly, the Jenkins application cannot properly claim the benefit of either the ‘400 Provisional or the ‘427 Provisional, and thus is not effective prior art because its filing date is subsequent to the filing date of Applicants’ application. As such, all of the claims that are

rejected based on Jenkins (those being claims 7-61, 63-67, 73-75, 78-80, 86, 88-93, 95 and 98-99) are now in condition for allowance.

Official Notice

Finally, the Examiner has relied on numerous Official Notices in rejecting various of the pending claims in combination with Greamo and Jenkins, including of goodwill costs as a component of overall costs (claims 3, 44, 65, 77, 85, and 97), of potential orders by potential customers (claims 37, 64, 71, and 76), and of determining a default center from which to fulfill an order (claims 88 and 91). The Applicants respectfully traverse the Examiner's taking of Official Notice. Applicants do not agree that it would be obvious to use the recited aspects in the manner claimed. For example, even if it is true that a cost associated with customer goodwill is generally factored into a company's cost structure (as asserted by the Examiner on page 18 of the prior Office Action), the Examiner has provided no basis why a general concern for customer goodwill would render obvious the claimed elements in claim 3 of, as part of "for each of the determined fulfillment plans for the order, determining an overall cost of using that fulfillment plan to supply the items of the order", the determining of the overall cost including "assigning costs to at least some of one or more reductions in customer goodwill that result from using that fulfillment plan to supply the items of the order; and totaling the modeled future costs, the determined directly attributable costs, and the assigned customer goodwill reduction costs" for the overall cost. Similarly, even if it is true that requests for quotes (or "RFQ") are well known in the art (as asserted by the Examiner on page 19 of the prior Office Action), the Examiner has provided no teaching or motivation to perform the claimed activities with respect to such an RFQ (e.g., "in response to the received order, determining deviations during a prior time period between items predicted to be ordered during that time period and items actually ordered during that time period; for each of multiple fulfillment plans that are options for fulfilling the received order, assigning to the fulfillment plan a cost of using the fulfillment plan that is based on direct costs associated with that fulfillment plan; adjusting the assigned costs of using at least some of the multiple fulfillment plans based on whether the use of those fulfillment plans will assist in correcting determined deviations for future orders; and selecting one of the fulfillment plans to

be used for fulfilling the received order based at least in part on the cost assigned to the one selected fulfillment plan"). If the Examiner maintains these rejection in the next Office Action, Applicants therefore request that the Examiner cite a reference in support of her position pursuant to M.P.E.P. 2144.03 and the PTO's memo on "Procedures for Relying on Facts Which are Not of Record as Common Knowledge or for Taking Official Notice" dated February 21, 2002.

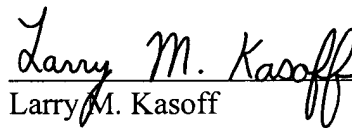
Conclusion

In light of the above remarks, Applicants respectfully submit that all of the pending claims are allowable. Applicants therefore respectfully request the Examiner to reconsider this application and timely allow all pending claims. If the Examiner has any questions or believes a telephone conference would expedite prosecution of this application, the Examiner is encouraged to call James White attorney of record at (206) 694-4815.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,

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